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Syncrude
Progress Review
Spring 1976

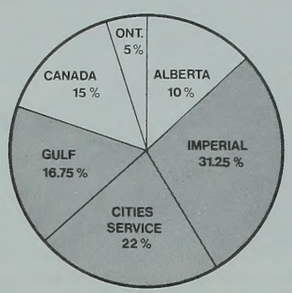
GOVERNMENTS SHARE PROJECT COSTS, CONTROL, BENEFITS

On April 1 of this year, it was announced that the final issues had been resolved in the agreement which brought the governments of Canada, Alberta and Ontario into the Syncrude project as equity investors more than a year earlier.

Following the negotiation session which was described as the most important for the Syncrude project since the historic Winnipeg meeting of February, 1975, one government representative described this as "a great day for Canada".

The 1974 withdrawal of Atlantic Richfield Canada Ltd. from the joint venture meant the full financial weight of the massive project rested on the three remaining participants: Canada-Cities Service Limited, Gulf Oil Canada Limited and Imperial Oil Limited. These companies announced that, unless a new investor was found by January 31, 1975, the project would be postponed or possibly abandoned altogether.

In response, the three governments indicated their intentions of investing a total of $600 million in the Syncrude project: $300 million from the federal government for a 15 per cent interest, $200 million from Alberta for 10 per cent and $100 million from Ontario for five per cent.

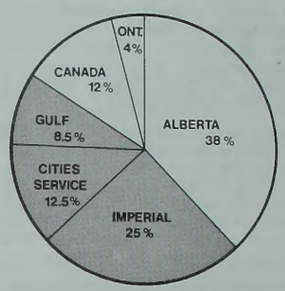


EQUITY INVESTMENT

The three remaining oil companies agreed to increase their participation to make up the remaining funding. Imperial Oil invested $625 million for an interest of 31¼ per cent; Cities-Service agreed to spend $440 million for a 22 per cent share and Gulf Oil Canada bought 16¾ per cent for $335 million.

The original agreement with Alberta gives that province an option, through the Alberta Energy Company, to acquire a further 20 per cent of the equity after start-up. Loans from the Alberta government to Canada-Cities Service and Gulf Oil Canada of $100 million each are in the form of debentures convertible to equity. Should these options be exercised, the province of Alberta would then own 38 per cent of the project. The other two governments would have a total of 16 per cent, giving governments a maximum possible share and majority ownership of 54 per cent.

The major share of revenue to governments will be to Alberta which, under the original agreement, receives 50 per cent of deemed profits in lieu of conventional royalties which normally accrue to the province. It also will receive a share of profits as one of the six equity investors in the project. The oil produced will be divided among the oil companies and the three governments according to their investments.



POTENTIAL OWNERSHIP

In addition to their financial interests in the project, the various governments are now included in the policy-making and control organizations within the company. The steering committee and the management committee, both policy-making bodies, are composed of one member from each of the governments and one from each industrial participant. The Board of Directors of Syncrude Canada Ltd. has representatives from the provinces of Alberta and Ontario and from the three oil companies, and it is anticipated that a director from the federal government will also be elected to the Board now legal details have been completed.

While negotiations amongst participants continue, construction activity increases at the Syncrude site. The stack marks the centre of the extraction complex, surrounded by the now-enclosed utilities and extraction plants, fluid cokers and electrostatic precipitators. Many of the vessels which make up the upgrading facilities are in place.

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Public Affairs Department
Syncrude Canada Ltd.
9915 - 108 Street
EDMONTON, Alberta

NEW DEPARTMENT IS RESPONSE TO ENVIRONMENTAL CONCERNS

To permit a more complete response to governmental, public and participant interest in Syncrude's environmental protection programs, Environmental Affairs became a separate department within the company in January.

The new department is under the direction of Dr. Ron Goforth, formerly Director of Research and Environmental Affairs. The department was previously part of the Research Department. Effective with the change, Dr. Brian St. John assumed the position of Manager, Environmental Programs.

Major activities of the new department are divided into three sections: Atmospheric Environment, Aquatic Environment and Terrestrial Environment. A number of research programs are being carried out in each area by independent consultants or company personnel.

A two year program of baseline inventory on the Ruth Lake and Poplar Creek aquatic ecosystem is being completed, as is a study of the baseline status of the Athabasca River. The latter will provide a monitoring base for assessing the potential effects of adding saline drainage water to the river.

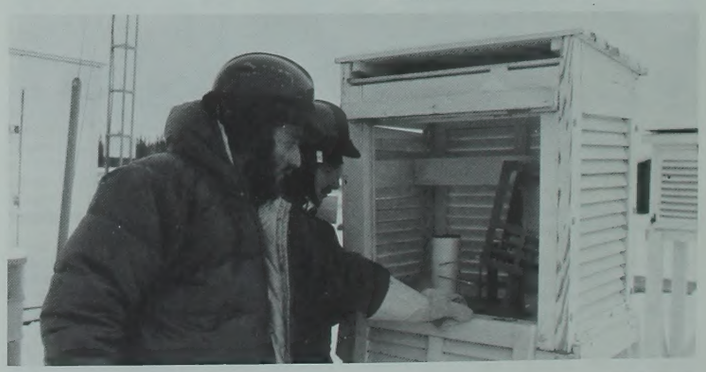
In the atmospheric environment area, a report concerning the lichen species existing on and around the Syncrude project is being studied, in order to assess the use of lichens as long term early warning systems for air pollution damage to vegetation. A network of monitoring stations may be designed and surveyed this summer.

Because Syncrude recognizes the possibility of an increase in ice fog problems resulting from tar sand processing, a preliminary ice fog study is being conducted by an independent consultant. Internal departments are working on a plan illustrating the locations of atmospheric emission sources and their anticipated compositions and flow rates from the Syncrude plant. A report on the first year of dispersion climatology study is being prepared for publication.

The Environmental Affairs Department is co-ordinating the preparation of a revised site development and reclamation plan being prepared by various departments of the company. This is expected to reflect current definition of both engineering detail and reclamation technology. The report will encompass the characteristics of the land as it was in its natural state; the effects that Syncrude's development is having on it; and the condition it will be in after the project is finished.

Work on revegetation of tailings material is continuing and detailed planning for reclamation and revegetation has been carried out for the Poplar Creek area. Choice of seeds, seed mix percentages, soil types and analyses, fertilizer requirements and those contractors capable of carrying out the required programs have all been recommended.

A study of the numbers, distribution and movements of mammals on Leases 17 and 22 has begun and the first report of the results is due this spring.



TOP: constant monitoring of climatic conditions is conducted by Syncrude environmentalists.
BOTTOM: the Poplar Creek area, site of the diversion dam and spillway, will be the location of the first revegetation activity.

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General science unit first in series of teaching aids

A number of Alberta teachers anxious to increase Canadian content in the school curriculum are receiving assistance from Syncrude.

Syncrude's Educational Services Division is providing assistance to a number of teachers working on the preparation of teaching units on the Athabasca Tar Sands.

The first of these, a general science unit, was originated by a science teacher at a suburban Edmonton high school and explains the techniques of producing petroleum from the tar sands. It also defines the nature, location and composition of the world's tar sand deposits and their hydrocarbon content.

A section, containing actual samples of tar sand provided by Syncrude, permits the students to conduct practical separation tests in the laboratory.

This package is presently being tested by 18 Alberta teachers, who volunteered to pilot the program in their own classrooms. It is also being introduced in three Ontario and two Saskatchewan high schools.

A social studies unit which covers the historical aspect of the tar sands region is in the preparation stage. The originators of this material, one from the faculty of education at Lethbridge University and two social studies department heads from Edmonton area high schools, intend to provide a variety of informative material for students' reading.

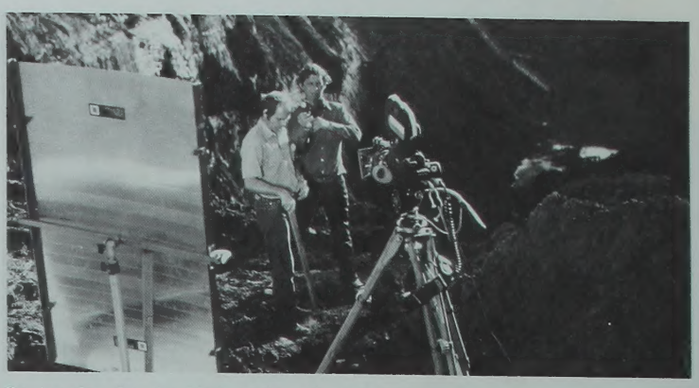
This will represent a variety of viewpoints and will be taken from historical journals, text books, contemporary writings and actual interviews with pioneers of the area. The unit is expected to be ready for testing in the fall.

A Red Deer high school biology teacher is initiating a unique technique for producing a teaching package by involving his students in the preparation of a unit covering the impact of tar sand development on both natural and social environment.

Three Lethbridge teachers are being assisted in the development of teaching kits to be used in grades one to five. This will acquaint students with the place of industry in the Canadian economy. The tar sands will be included as a growing industry within the province.

None of the material in these packages is being created by Syncrude. The company is simply offering authors assistance in the areas of research and technical information together with financial support for writing, mechanical reproduction and graphic materials. Each unit will be tested in classrooms and evaluated by professional educators for content and approach. After evaluation and any necessary modifications, the unit will be offered for sale, at cost, to teachers.

The general science unit of tar sand extraction is tested in an Edmonton school laboratory by a science teacher and his class.



On location for the filming of a television commercial, one means by which the Syncrude story is told to Canadians as an aid to recruiting.

1976 crucial for recruitment

The staff of Syncrude is rapidly nearing the 700 mark, just over 25 per cent of the total number of people who will be needed for plant operations and support personnel when the project goes on stream in 1978.

Significant of the direction the project is taking is the fact that the greatest growth over the past year was recorded in the Operations Department, the group which will actually be running the completed plant. It grew from 17 people at the beginning of 1975 to a present figure of nearly 145.

The Research Department, which began 1975 with the largest personnel count, was surpassed during the year by Projects, the department responsible for the construction of the facility. Research increased from 100 to 116, while Projects staff went from 85 to 146. Projects, in turn, will this year be overtaken and passed by Operations.

Financial and Administrative Services and Northward Developments Ltd. also showed significant increases over the past twelve months.

There are presently over 150 Syncrude employees located in Fort McMurray and the greatest percentage of new staffers will from now on be resident in the community. Recruitment plans call for about 700 Syncrude people to be living there by the end of 1976. These will be mostly in the Projects Department (576) with 106 in Operations and the remainder Northward Developments staff.

Syncrude's Employee Relations Department placed 330 people in total during 1975. This year, the Manpower, Planning, Recruitment and Relocation Division of the department must triple that figure.

Syncrude recruiting teams are scheduled to make a number of sweeps across Canada this year in an attempt to fill the personnel needs of the company. Included will be visits to post-secondary institutions to search, in the first phase, for engineering and data processing graduates and, in the second phase, for technologists.

The hiring emphasis remains on first, Alberta, and second, Canadian recruiting, but the shortage of semi-skilled and highly skilled trades which will be required to operate the project could also require recruiting teams to eventually move outside the country. A contingency plan is available should this become necessary, although, to date, overseas recruiting has produced a very small part of the intake.

Major milestones mark project construction progress

In Italy, a police escort accompanied Syncrude's go-finer reactor on its journey from the manufacturer to the port where it was embarked for Canada.

Construction of the overall Syncrude project is approximately 30 per cent complete, with about 85 per cent of the total engineering work finished.

Among the construction milestones over the past 12 months were the completion of the 600 foot stack, the capping of the first fluid coker vessels and the completion of the dam which will divert Beaver Creek away from the mine site.

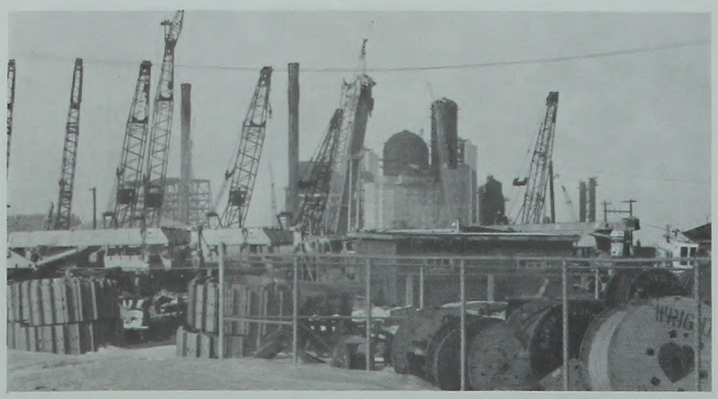
A new, 500-ton capacity bridge was also completed over the Athabasca River to accommodate the massive equipment units demanded by the project.

Among these are four 360-ton gofiner reactors which were manufactured in Italy, shipped to Canada by sea, then to the project site by special rail cars and trucks. Two other vessels of almost equal size, also requiring special transportation equipment, have been shipped to Alberta from Victoria, B.C. where they were fabricated.

Field fabrication of the second fluid coker has begun and the first components of the first 80-cubic-yard dragline have been received from Marion, Ohio. These are being shipped disassembled (each requires about 175 railroad cars to accommodate all the parts) and will be erected on the site.

Special equipment and special precautions were taken by the Northern Alberta Railway to transport the reactor from the Edmonton marshalling yards to Fort McMurray.

Home at last, the twin 560-ton reactors take their places in the upgrading complex.



The availability of construction equipment when needed and the provision of plenty of good food are two important factors in maintaining the productivity of the work force at a maximum.

Delivery, productivity, management now major Project Dept. concerns

With engineering and commitment of major equipment and materials well on the way to completion, the major emphasis in the Projects Department, responsible for the construction of the Syncrude project, is shifting from these areas to field construction according to Chuck Collyer, Vice President and General Manager - Projects.

"Now our concern is more inclined toward delivery of materials to the site on schedule to eliminate field delays due to shortages," he says. "To do this, we have to ensure that the equipment we need is produced on schedule by the manufacturers and that there are no delays in transporting it to the job."

Problems still exist with some of the manufacturers (for example, some of the dragline deliveries are causing concern), but in other areas deliveries are proceeding on schedule. "The receipt of the 360-ton reactors for the gofiners is a landmark. They were ordered very early in the game and, although they were manufactured in Italy which made monitoring difficult, they have been delivered on time."

The department is fully aware of the constraints affecting the labour situation, including the limitations of the labour pool, particularly in the skilled trades. Alberta is the major source of labour but, recognizing the fact that the pool is not unlimited, the strong likelihood of having to eventually move outside Canada to obtain the skilled crafts which will be required is taken into consideration.

In the meantime, the company is working closely with Canada Manpower and the provincial government to maximize recruitment in Canada. If the necessity arises, however, to extend recruitment activities, the capability to do so, in co-operation with Canadian Bechtel Ltd., does exist.

Once the tradesman is hired, the concern becomes to retain him or her, and to keep productivity at its maximum. To do so requires that the work force is given the opportunity to operate at maximum efficiency. This means that the engineering must be accurately completed, the tools, equipment and materials available so the worker has everything needed to accomplish his task.

"There's also the question of the capability of the individual to perform the job. To maximize this facet, Canadian Bechtel is providing on-the-job training for both tradesmen and supervisors so they can upgrade their skills as required."

The camp environment plays an important part in productivity and personnel retention as well. "We have to see that we provide the best possible living conditions within the unavoidable restrictions of camp life. A worker will do a better job if he is comfortable and well taken care of in his off-work hours."

Scheduling of work activities and ordering of construction equipment have played an important part in keeping the construction work on schedule. Work slowdowns during the winter months are part of a planned program to concentrate activity into those areas which can be protected from the weather. Maintaining crews only for those portions of the job keeps productivity high, without incurring a penalty to the construction activity.

With the arrival of spring, and the resumption of the full work schedule, the reason for the early ordering of some construction equipment which has been sitting idle on the site will become obvious. With the increased activity during this, the most important construction year, the equipment and machinery necessary to do the job is on hand. There is no danger of having a specific aspect of construction delayed because of slow delivery of cranes, cherry pickers and other large equipment.

Syncrude's Projects Department is increasing its construction management staff on site in order to provide a greater contribution to the efficiency of performance. "We believe we can help our contractor and, at the same time, more closely monitor the cost, schedule and quality of construction. It is our responsibility to safeguard the interests of the participants and we can do this with greater success by increasing the number of people we have on site."

In the midst of the construction activity, the Projects Department is also looking ahead to the day when the project will be completed and become the responsibility of the Operations Department. "Our commitment to Operations right now," Chuck says, "is to work with them in melding the two departments so that between now and startup, we can turn over the plant on a continuing basis. Construction completion must be scheduled to fit operations plans and operations must plan according to certain construction constraints. We have to be aware of what needs to be done and when in order to permit operations personnel to move into control as required."

Chuck believes that the progress of the Syncrude project is beginning to overcome the problems. "It's time someone noticed that, in spite of the many difficulties we've had to face, we are now more than 30 per cent completed. This shows a great deal of hard work has been done and a great many of the problems have been solved."

MANAGEMENT CORE COMPLETED

The functions of Syncrude Canada Ltd. are now being directed by a senior management group consisting of the Chairman of the Board of Directors, the President, Executive Vice President and five Vice Presidents.

Frank Spragins, president of the company since its inception in 1964, was named Chairman of the Board on July 1, 1975. Prior to the establishment of the company, Mr. Spragins participated on all committees relative to Cities Service Athabasca Ltd. (Syncrude's predecessor) as a representative of Imperial Oil Limited, a company with which he spent 14 years.

The presidency of Syncrude was assumed on July 1 by Brent Scott, formerly Executive Vice President. A native of Calgary and a graduate of the University of Alberta, Mr. Scott came to Syncrude in 1972, after 25 years with Gulf Oil Canada Ltd., where his last position was Manager of Engineering, Toronto head office.

Bill Sande, formerly Manager: New Energy Resources, Imperial Oil Limited, Toronto, assumed the executive vice presidency. He is also a graduate of the University of Alberta and a native of Calgary.

The Vice President and General Manager, Projects is Chuck Collyer, who came to Syncrude in May, 1972, after 20 years with Imperial Oil. His position prior to joining this company was Chief Project Engineer with Imperial's Engineering Division in Sarnia. A native of Montreal, Chuck is a graduate of Queen's University.

Neil Lund left the post of Petroleum Products Manager at Imperial's Sarnia refinery in April, 1974 to assume the position of Vice President and General Manager, Operations. He was born in Sarnia and is also a graduate of Queen's.

On July 9, 1975, Dave Hintermeister was appointed Vice President and Managing Director, Research and Engineering. A graduate of Iowa State University, Dave spent more than 20 years with Cities Service Co., where his last position was Manager of Technical Services at the company's Lake Charles refinery.

Doug Hingley, formerly Assistant Comptroller of Imperial Oil Limited, assumed the position of Vice President and Managing Director, Administration, on September 1, 1975. He is responsible for Financial and Administrative Services, Internal Audit, Employee Relations, Legal and Public Affairs Departments. A chartered accountant, he holds a degree in commerce from the University of Saskatchewan, the province of his birth.

The position of Vice President, Housing and Urban Development is filled by John Elson, a native of Ontario and a graduate of University of Toronto. Prior to joining Syncrude on September 1, 1975, John was responsible for major urban, commercial, industrial and residential projects in various centres across Canada for one of the country's major real estate developers.

FRANK SPRAGINS
Chairman of the Board

BRENT SCOTT
President

BILL SANDE
Executive Vice-President

Housing construction planned for three new subdivisions

With the completion of virtually all the 187 single family homes constructed by Northward Developments Ltd. in the Beacon Hill subdivision of Fort McMurray, the housing arm of Syncrude is turning its attention to planning and construction in a number of other areas in the community.

In the Thickwood Heights subdivision, on a high point looking east to the Athabasca River, 147 single family homes and 156 town house units are now in the framing stage. Most of these will be ready for occupancy this year.

The construction of another 169 family homes has been put out to tender and is expected to be about 60 per cent completed by the end of the year. Awaiting approval by the various authorities is a further town house complex of 223 units which is planned for Thickwood Heights, with construction starting in August.

Area One, to the west of the lower townsite, is one of the more challenging developments facing Northward. Here, the plan is for the company to develop an entire "sub-community", establishing services and oversizing for future expansion. The services will extend to lands owned by individuals who will be required to pay their share of costs when they begin developing the land.

The area will accommodate 1,125 housing units for a total population of some 4,500. Of these, approximately 690 will be for Syncrude use, with the remainder going to the municipality and private owners. Present plans call for this mix to be 264 single-family houses in clusters and 861 units in multi-family housing.

The emergency access road (being used for construction) has been completed into the area and the Outline Plan of development approved. Tenders have been called on all on-and-off-site underground servicing and a start of 350 to 400 units is anticipated for this summer.

In the lower townsite, 19.7 acres of River Lot 5, near MacDonald Island, is under option to Northward. An architect has been awarded the conceptual planning for a proposed high-density residential complex. Subject to the various approvals required, this will be developed as an integrated housing area, including high-rise accommodation and recreational and convenience facilities to serve the complex.

Syncrude's total housing requirements by the end of 1979 will be 2,400 units.

The majority of the Syncrude single family homes located in the Beacon Hill subdivision of Fort McMurray have been completed.

OPERATIONS DEPARTMENT TRAINING, SCHEDULING FOR START-UP

Although it will be another two years before the scheduled construction of the Syncrude project is completed and the plant is "on stream", the Operations Department of the company is already gearing up to the day when it will be responsible for the production of synthetic crude oil.

The department began 1976 with a total staff of 104. By the end of the year, this is planned to increase to 624, an average of ten per week. These people will be distributed amongst five divisions: Conservation, Purchasing, Mining, Upgrading, Central Mechanical Services, and Employee Relations.

All divisions now have embryo staffs which are working to build the total department, phase by phase, to the more than 2,000 persons who will be required by the beginning of production in May 1978.

An extensive training program has already been started to equip incoming staff members with the knowledge they will require to efficiently operate the completed plant. At the peak of the program, some 50 people will be involved in training new staff.

In addition, Operations personnel are involved in preparing, in co-operation with the Projects Department, schedules which detail the completion and start-up of various aspects of the plant. Start-up sequences are being finalized, connections between the various functions are being identified, and operating instructions are being written.

Later this year, the base of Operations will move from Edmonton to Fort McMurray. An interim Operations building is presently under construction at the lower camp (site of the old Mildred Lake pilot plant). After April, 1976, most new people joining the department will be located in Fort McMurray. The numbers will be limited only by the availability of working space and accommodation in the town.

Of the present staff, 53 are already resident in Fort McMurray and working at the site. There, Operations activities include development and exploratory drilling (working with the Engineering Department) and aquifer depressurization.

Milestones which are expected to be reached in 1976 include the commissioning of the system to pump water from the Athabasca River to Mildred Lake, the start of the initial commissioning of the electrical system and the energizing of the Alberta Power tie line to bring high voltage electricity to the site.

The total work force on the Syncrude construcation site is expected to reach about 6,600 this summer.

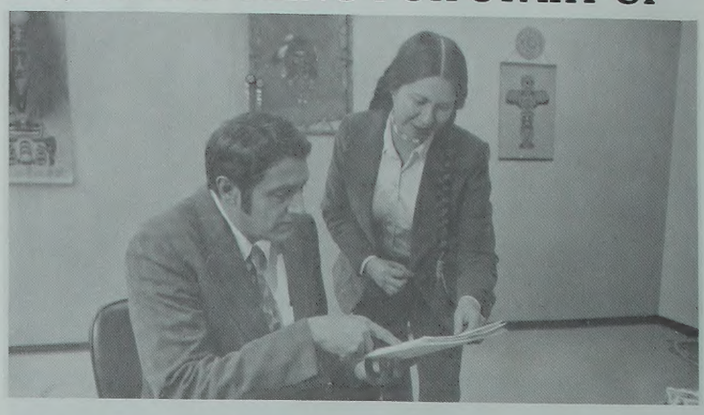
The construction work force on the Syncrude site reached a 1975 peak of 4,540 just before Christmas, dropped quite sharply during the holiday period, then began a rapid buildup to 3,864 by the end of January.

Of the total, 2,239 were manual workers with Canadian Bechtel Ltd., 653 non-manual, and 972 on sub-contractor payrolls. Labourers led the Bectel work force in numbers with 476, followed by operating engineers (467), pipe-fitters (265), electricians (257), carpenters (237), ironworkers (226), teamsters (170), boilermakers (99), millwrights (25) and the cement masons (17).

In addition to the field force on site, there were 726 people employed at the four pre-assembly sites in Edmonton. These included 398 manual trades, 284 non manual and 44 sub-contractor staff.

Of the four pre-assembly sites, traffic, procurement, administration, planning, scheduling, marshalling and warehousing are conducted at site one. Sites two and four are adjacent and house facilities for insulation, fireproofing and pre-assembly of piping, a welding school and pre-assembly of small components for the conveyor systems, draglines and bucket wheel reclaimers.

Carpentry, reinforcing iron work, conduit construction, form manufacturing and concrete work are conducted at site three.



Native Relations Co-ordinator Herb Callihoe and Native Social Relations Instructor Dorothy Cochrane discuss the progress of the Syncrude native hiring-training program.

NATIVE TRAINEES FIRST INTAKE INTO HIRING/TRAINING PROGRAM

Six heavy equipment operators/trainees, presently employed by Syncrude on development work at the project site, are the vanguard of a long range program to locate, train and hire native residents of northern Alberta for career positions throughout the company.

For the Operations Department, responsible for staffing the completed project, the program has two thrusts.

The first is to locate and place those natives who have the necessary qualifications to be immediately hired as employee trainees. The company is committed to hire 24 such native employees in this category by mid-year. They will receive on-the-job training both at the project site and at industrial facilities where comparable operating techniques provide the opportunity for familiarization with equipment and procedures.

Says Herb Callihoe, Syncrude's Native Employment Co-ordinator: "These people are our first intake. They will be followed by many more. The only upward limitation on the number of native employees in this category is the number of native people who come forward with the basic academic skills to meet our qualifications. Essentially, this basic level is Grade 10 standing in math and science, and good potential. The more native people who fall into this category, the more we will be able to hire."

The second classification is for applicants who require academic upgrading before being eligible for permanent positions. Those who agree to do this are enrolled at one of the various training institutions working with the company on the program. They will receive a letter of intent to hire in career positions on the Syncrude staff when they successfully complete their courses. Fifty applicants of this type will be identified this year.

The ultimate extent of the program, in terms of numbers, is not known, but it will be continued as long as there are positions to be filled and applicants interested. Turnover in the organization will create hundreds of new openings as the plant goes through its initial years of operation.

To facilitate the location of both classifications, the company is working with Keyano College in Fort McMurray, the Alberta Vocational Centres in Grouard and Lac La Biche and such native organizations as Native Outreach.

A Native Opportunity Task Force has been established within Syncrude to optimize job opportunities for natives in all departments, both in Fort McMurray and Edmonton. Herb Callihoe is its chairman. Herb's first two staff members - both native - joined the company in February to plan special native training and counselling programs.

Employment for natives during the construction phase is receiving serious attention as well. As many as 800 native construction workers have been employed on the project site during peak periods. Most of these are labourers, but a sizable number are in the skilled trades and supervisory positions. The number is expected to increase with the growth of the workforce to its peak this summer.

Construction, Engineering, Equipment Committed To Canadian Firms

As a part of its commitment to maximize opportunities for Canadian participation, Syncrude has now made more than 245 construction-related sub-contract awards to Canadian companies.

"When the Syncrude Project received its first go-ahead from the Alberta Government in 1972, we made a commitment to give first preference to Alberta and Canadian firms, wherever it was practical to do so," said C. R. (Chuck) Collyer, Syncrude's Vice President: Projects. "We have honored that commitment. More than 70 per cent of the dollars spent on the project to-date have been spent in Canada."

Counting only those valued at over $1 million, these construction awards now total over $185 million. Over $95 million of this went to Alberta firms.

British Columbia firms received construction sub-contracts worth $46 million, Ontario's share is $26 million, Manitoba firms have $15 million and Quebec nearly $2 million. These do not include completed earth-moving subcontracts totalling over $15 million which went to Alberta, British Columbia and Manitoba firms.

As of January 1 of this year, 28 contracts had been awarded to Alberta engineering firms and one to a B.C. firm. Canadian content of total engineering is estimated at 67 per cent.

Construction and engineering work are not the only opportunities for Canadians and Canadian firms to participate. Many pieces of purchased equipment have also been ordered from Canadian firms.

Commitments for equipment are almost at the half-way mark. Counting only those which are valued at over $1 million, $104.2 has been committed in Canada, $63.4 million in the United States and $45.2 million in Europe. Of the Canadian total, nearly $58 million went to Ontario, $34.6 million to Alberta, $10.2 million to B.C., $8.4 million to Quebec and $1.4 to Saskatchewan.

Commitments in the U.S. were made up largely of the dragline orders, while the European orders consisted of bucket-wheel reclaimers from German, pressure vessels from France and Italy and centrifuges from Sweden.

Canadian-manufactured equipment for the Syncrude project ranges from massive, heavy-wall reactor vessels to such delicate items as valves and switches.